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P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

| EXAMINER | |
|---|---|
| WANG, JIN CHENG | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/864,107 | VAN LIERE, FILIPS | |
| | Examiner | Art Unit | |
| | Jin-Cheng Wang | 2628 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *28 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-3,5-12,14-19,26-30,32 and 33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-12,14-19,26-30,32 and 33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Amendment*

Applicant's submission filed on 1/18/2006 have been entered. Claims 1, 9-12, and 14-18 have been amended. Claims 4, 13 and 20-24 have been canceled. Claims 25-33 have been newly added. Claims 1-3, 5-12, 14-19, 25-33 are pending in the application.

### *Response to Arguments*

Applicant's arguments with respect to claims 1 and similar claims have been considered but are moot in view of the new ground(s) of rejection based on Echerer et al. U.S. Pat. No. 5,740,267 (hereinafter Echerer) in view of Fenster et al. U.S. Pat. No. 5,454,371 (hereinafter Fenster), Killcommons et al. U.S. Patent No. 6,424,996 (hereinafter Killcommons).

Echerer further discloses enabling the generation of the measurement graphics without activation of ACTION BARS or image fields, OR CONTROL PANELS since Echerer teaches using a mouse only without activating ACTION BARS or image fields, OR CONTROL PANELS. See e.g., column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35. Echerer teaches measuring the length of the two points, measuring an area encircled by at least three points and measuring the angle between two lines formed by four points wherein the four points are specified as in column 21 for measuring the angle. Echerer discloses enabling the generation of the measurement graphics without requiring a user to define a type of graphic being generated through the automatic analysis file wherein the measurement graphics is automatically generated (See column 17-18).

Fenster discloses that the user can use the graphical input device such as a single button mouse to measure distances and areas of the three-dimensional image within the most recently moved image plane and the user simply needs to use the graphical input device 38 to indicate the two end points over which the distance is to be measured if the user wishes to measure a distance and the user must identify at least three points if an area is to be measured and the placement of points on the image is done by moving a cursor and the display module 92 connects adjacent points by straight line segments and computes both the overall line length and the area bounded by the lines joining the points using an appropriate scale. **In this setting, only a mouse has been placed on the points of the image to measure a distance or an area without activation of menus, toolbars and control panels outside the medical image**.

When the pointer symbol is situated on the medical image, a measurement graphics is generated without actuation of one button of the mouse on menus, toolbars and control panels because the pointer symbol is situated on the medical image while the measurement graphics is generated. The pointer symbol is not situated on menus, toolbars and control panels when the pointer symbol is situated on the medical image. Therefore, the actuation of the at least one button of the mouse enables the generation of the plurality of different measurement graphics including measuring the distance of two points on the medical image and the area encircled by three points on the medical image without actuating at least a button of the mouse when the pointer symbol of the mouse is situated on menus, toolbars and control panels, i.e., when the pointer symbol is subsequently moved away from the medical image after the generation of the measurement graphics. Fenster discloses enabling the generation of the plurality of different measurement graphics including the measurement of distance between two points on the medical

image and the measurement of area encircled by more than two points on the medical image based only upon actuation of at least one button of said mouse when said pointer symbol is situated on said medical image without clicking on the mouse, even when the pointer symbol is moved outside the medical image and placed on the menus, toolbars, and control panels outside the medical image after the measurement graphics is generated. Fenster discloses enabling the generation of the plurality of different measurement graphics including the measurement of distance between two points on the medical image and the measurement of area encircled by more than two points on the medical image based only upon actuation of at least one button of said mouse when said pointer symbol is situated on said medical image without the actuation of the at least one button of the mouse when said pointer symbol is subsequently moved away from the medical image and placed on menus, toolbars, and control panels. Because the pointer symbol is placed on the medical image in the generation of the measurement graphics, the measurement graphics are generated without the movement of the pointer symbol outside of the medical image while the measurement graphics is generated. In conclusion, Fenster discloses the claim limitation of enabling the generation of the plurality of different measurement graphics based only upon actuation of said at least one button of said mouse when said pointer symbol is situated on said medical image without actuation of said at least one button of said mouse when said pointer symbol is situated on menus, toolbars, and control panels such that the measurement graphics are generated without movement of said pointer symbol outside of said medical image.

According to MPEP 2106, Office personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997)*. Limitations appearing in the specification but not

recited in the claim are not read into the claim. *E-Pass Techs., Inc. v. 3Com Corp., 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003)* (claims must be interpreted 'in view of the specification' without importing limitations from the specification into the claims unnecessarily).*In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969). See also In re Zletz, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989).*

However Echerer is silent to "displaying...said medical image...without the presence of menus, toolbars and control panels on said graphical interface", "enabling the generation of the at least three measurement graphics without requiring a user to define in advance the type of measurement graphic being generated".

Fenster teaches the claim limitation of "displaying...said medical image...without the presence of menus, toolbars and control panels on said graphical interface" (*Fenster discloses in column 23, lines 25-40 and Fig. 27 using the graphical input device to measure distances and areas of the three-dimensional image within the most recently moved plane without the presence of menus, toolbars and control panels on said graphical interface. Fenster teaches that the user uses the graphical input device to indicate the two end points over which the distance is to be measured and the user must identify at least three points if an area is to be measured. Fenster also teaches generating the measurement graphics without moving the pointer outside the medical image*).

It would have been obvious to one of ordinary skill in the art to have incorporated the Fenster's measurement method into Echerer's method of processing cursored user interaction because Echerer implicitly suggests providing a menu-less graphical interface for display said

medical image (e.g., Echerer column 12, lines 20-30; column 13, lines 25-50) and providing a predefined interaction with said medical image, wherein said interaction is selected from a group of predefined interactions based on said status of each of said at least one button during the interval between multiple said position detection steps (e.g., Echerer column 16, lines 15-67; column 17, lines 1-67; column 18, lines 1-64) therefore suggesting an obvious modification of the Echerer's method for processing a radiograph.

One having the ordinary skill in the art would have been motivated to do this because it would have provided an alternative drawing option that does not rely on the menus, control panels and toolbars for GUI control (Fenster column 23 and Fig. 27).

Although Echerer and Fenster are silent to "enabling the generation of the at least three measurement graphics without requiring a user to define in advance the type of measurement graphic being generated", Fenster discloses enabling the generation of at least two different measurement graphics based only upon the actuation of the at least one button of the mouse, Killcommons discloses enabling the generation of at least three different measurement graphics based only upon the actuation of the at least one button of the mouse. Killmore discloses providing the angle of deviation between two selected vectors on the image in which the operator may select a first vector and move the cursor from the original vector to a second vector. Therefore, having the combined teaching of Echerer, Fenster and Killcommons, one of the ordinary skill in the art realize how to generate at least three different measurement graphics based only upon the actuation of the at least one button of the mouse. Moreover, Echerer discloses enabling the generation of at least three different measurement graphics without requiring a user to define a type of graphic being generated through the automatic analysis file

wherein the measurement graphics is automatically generated (See column 17-18). Echerer's generation of the at least three different measurement graphics is enabled without moving the cursor outside the medical image, i.e., through the automatic analysis file. Therefore, Echerer suggests the claim limitation of "enabling the generation of at least three different measurement graphics based only upon actuation of said at least one button of said mouse when said pointer symbol is situated on said medical image such that the measurement graphics are generated without movement of said pointer symbol outside of said medical image." Echerer's generation of the at least three different measurement graphics is performed through the automatic analysis file without requiring a user clicking on the menus, toolbars and control menus to define in advance the type of measurement graphic being generated. Accordingly to applicant's specification, it is understood that only one measurement graphics is produced at a time and the type of measurement graphics should be defined through the mouse operator interface. However, applicant's claim 1 set forth the claim limitation of "enabling the generation of the at least three measurement graphics without requiring a user to define in advance the type of measurement graphic being generated."

One having the ordinary skill in the art would have been motivated to do this because it would have provided an alternative drawing option that does not rely on the menus, control panels and toolbars for GUI control (Fenster column 23 and Fig. 27; Killcommons column 14, lines 17-57).

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 26 and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 26 recites "an area measurement formed by a series of at least three points with the first and last points in the series being the same point". However, an area measurement formed by three points with the first and last points in the series of three points being the same point would be an area with only two distinct points because the first point and the last point of the three points are the same point, only the second point of the three point is different from the first point and the last point. The three points with the first point and the last point being the same point cannot form an area.

The claim 32 is subject to the same rationale of rejection set forth in the claim 26.

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3, 5-12, 14-19, 26-30 and 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Echerer et al. U.S. Pat. No. 5,740,267 (hereinafter Echerer) in view of Fenster

et al. U.S. Pat. No. 5,454,371 (hereinafter Fenster), Killcommons et al. U.S. Patent No. 6,424,996 (hereinafter Killcommons).

3. Re Claim 1:

Echerer teaches a method for providing and processing a cursored user interaction (column 8, lines 37-67, column 9, lines 1-23) with a spatially displayed medical image (column 7, lines 21-29) and producing graphics related data on said medical image (column 12, lines 42-56), wherein said method comprises the steps of:

Controlling a mouse computer interface device, having at least one button (e.g., column 12, lines 20-30; column 13, lines 25-50);

Displaying a pointer symbol on said graphical interface, wherein said pointer symbol (e.g., a cursor) represents a current position of said mouse on said graphical interface (e.g., column 8, lines 35-55; column 12, lines 20-30; column 13, lines 25-50);

Tracking a status of each of said at least one button (e.g., column 12, lines 20-30; column 13, lines 25-50);

Detecting a position of said mouse, wherein said position detection step is activated upon actuation of one of said at least one button (e.g., column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35); and

Generating one of a plurality of measurement graphics related to a predefined set of measurement operations on said medical image upon at least one actuation of said at least one button (*herein only mouse is being used instead of the user interface constructs such as ACTION*

*BARS or SCROLLABLE PANEL AREAS; see e.g., column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35*).

Enabling the generation of the plurality of at least three different measurement graphics using said mouse without activation of toolbars and control panels such that the measurement graphics are generated without movement of said pointer symbol outside of said medical image (*e.g., column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35*), and

Enabling the generation of the at least three measurement graphics without requiring a user to define in advance the type of measurement graphics being generated (*e.g., column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35*).

*In other words, Echerer further discloses enabling the generation of the measurement graphics without activation of ACTION BARS or image fields, OR CONTROL PANELS since Echerer teaches using a mouse only without activating ACTION BARS or image fields, OR CONTROL PANELS. See e.g., column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35. Echerer teaches measuring the length of the two points, measuring an area encircled by at least three points and measuring the angle between two lines formed by four points wherein the four points are specified as in column 21 for measuring the angle. Echerer discloses enabling the generation of the measurement graphics without requiring a user to define a type of graphic being generated through the automatic analysis file wherein the measurement graphics is automatically generated (See column 17-18).*

Fenster discloses that the user can use the graphical input device such as a single button mouse to measure distances and areas of the three-dimensional image within the most recently moved image plane and the user simply needs to use the graphical input device 38 to indicate the

two end points over which the distance is to be measured if the user wishes to measure a distance and the user must identify at least three points if an area is to be measured and the placement of points on the image is done by moving a cursor and the display module 92 connects adjacent points by straight line segments and computes both the overall line length and the area bounded by the lines joining the points using an appropriate scale. **In this setting, only a mouse has been placed on the points of the image to measure a distance or an area without activation of menus, toolbars and control panels outside the medical image**.

When the pointer symbol is situated on the medical image, a measurement graphics is generated without actuation of one button of the mouse on menus, toolbars and control panels because the pointer symbol is situated on the medical image while the measurement graphics is generated. The pointer symbol is not situated on menus, toolbars and control panels when the pointer symbol is situated on the medical image. Therefore, the actuation of the at least one button of the mouse enables the generation of the plurality of different measurement graphics including measuring the distance of two points on the medical image and the area encircled by three points on the medical image without actuating at least a button of the mouse when the pointer symbol of the mouse is situated on menus, toolbars and control panels, i.e., when the pointer symbol is subsequently moved away from the medical image after the generation of the measurement graphics. Fenster discloses enabling the generation of the plurality of different measurement graphics including the measurement of distance between two points on the medical image and the measurement of area encircled by more than two points on the medical image based only upon actuation of at least one button of said mouse when said pointer symbol is situated on said medical image without clicking on the mouse, even when the pointer symbol is

moved outside the medical image and placed on the menus, toolbars, and control panels outside the medical image after the measurement graphics is generated. Fenster discloses enabling the generation of the plurality of different measurement graphics including the measurement of distance between two points on the medical image and the measurement of area encircled by more than two points on the medical image based only upon actuation of at least one button of said mouse when said pointer symbol is situated on said medical image without the actuation of the at least one button of the mouse when said pointer symbol is subsequently moved away from the medical image and placed on menus, toolbars, and control panels. Because the pointer symbol is placed on the medical image in the generation of the measurement graphics, the measurement graphics are generated without the movement of the pointer symbol outside of the medical image while the measurement graphics is generated. In conclusion, Fenster discloses the claim limitation of enabling the generation of the plurality of different measurement graphics based only upon actuation of said at least one button of said mouse when said pointer symbol is situated on said medical image without actuation of said at least one button of said mouse when said pointer symbol is situated on menus, toolbars, and control panels such that the measurement graphics are generated without movement of said pointer symbol outside of said medical image.

According to MPEP 2106, Office personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997).* Limitations appearing in the specification but not recited in the claim are not read into the claim. *E-Pass Techs., Inc. v. 3Com Corp., 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003)* (claims must be interpreted 'in view of the specification' without importing limitations from the specification into the claims

unnecessarily).*In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969). See also In re Zletz, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989).*

However Echerer is silent to "displaying...said medical image...without the presence of menus, toolbars and control panels on said graphical interface", "enabling the generation of the at least three measurement graphics without requiring a user to define in advance the type of measurement graphic being generated".

Fenster teaches the claim limitation of "displaying...said medical image...without the presence of menus, toolbars and control panels on said graphical interface" (*Fenster discloses in column 23, lines 25-40 and Fig. 27 using the graphical input device to measure distances and areas of the three-dimensional image within the most recently moved plane without the presence of menus, toolbars and control panels on said graphical interface. Fenster teaches that the user uses the graphical input device to indicate the two end points over which the distance is to be measured and the user must identify at least three points if an area is to be measured. Fenster also teaches generating the measurement graphics without moving the pointer outside the medical image*).

It would have been obvious to one of ordinary skill in the art to have incorporated the Fenster's measurement method into Echerer's method of processing cursored user interaction because Echerer implicitly suggests providing a menu-less graphical interface for display said medical image (e.g., Echerer column 12, lines 20-30; column 13, lines 25-50) and providing a predefined interaction with said medical image, wherein said interaction is selected from a group of predefined interactions based on said status of each of said at least one button during the

interval between multiple said position detection steps (e.g., Echerer column 16, lines 15-67; column 17, lines 1-67; column 18, lines 1-64) therefore suggesting an obvious modification of the Echerer's method for processing a radiograph.

One having the ordinary skill in the art would have been motivated to do this because it would have provided an alternative drawing option that does not rely on the menus, control panels and toolbars for GUI control (Fenster column 23 and Fig. 27).

Although Echerer and Fenster are silent to "enabling the generation of the at least three measurement graphics without requiring a user to define in advance the type of measurement graphic being generated", Fenster discloses enabling the generation of at least two different measurement graphics based only upon the actuation of the at least one button of the mouse, Killcommons discloses enabling the generation of at least three different measurement graphics based only upon the actuation of the at least one button of the mouse. Killmore discloses providing the angle of deviation between two selected vectors on the image in which the operator may select a first vector and move the cursor from the original vector to a second vector. Therefore, having the combined teaching of Echerer, Fenster and Killcommons, one of the ordinary skill in the art realize how to generate at least three different measurement graphics based only upon the actuation of the at least one button of the mouse. Moreover, Echerer discloses enabling the generation of at least three different measurement graphics without requiring a user to define a type of graphic being generated through the automatic analysis file wherein the measurement graphics is automatically generated (See column 17-18). Echerer's generation of the at least three different measurement graphics is enabled without moving the cursor outside the medical image, i.e., through the automatic analysis file. Therefore, Echerer

suggests the claim limitation of "enabling the generation of at least three different measurement graphics based only upon actuation of said at least one button of said mouse when said pointer symbol is situated on said medical image such that the measurement graphics are generated without movement of said pointer symbol outside of said medical image." Echerer's generation of the at least three different measurement graphics is performed through the automatic analysis file without requiring a user clicking on the menus, toolbars and control menus to define in advance the type of measurement graphic being generated. Accordingly to applicant's specification, it is understood that only one measurement graphics is produced at a time and the type of measurement graphics should be defined through the mouse operator interface. However, applicant's claim 1 set forth the claim limitation of "enabling the generation of the at least three measurement graphics without requiring a user to define in advance the type of measurement graphic being generated."

One having the ordinary skill in the art would have been motivated to do this because it would have provided an alternative drawing option that does not rely on the menus, control panels and toolbars for GUI control (Fenster column 23 and Fig. 27; Killcommons column 14, lines 17-57).

Claim 2:

The claim 2 encompasses the same scope of invention as that of claim 1 except additional claimed limitation that a single-point actuating/positioning assigns an actual pixel position and/or a pixel intensity quantity to the point in question. However, Echerer and Fenster further disclose the claimed limitation that a single-point actuating/positioning assigns an actual pixel position

and/or a pixel intensity quantity to the point in question (e.g., Echerer column 12, lines 42-56; Fenster column 19).

Claim 3:

The claim 3 encompasses the same scope of invention as that of claim 1 except additional claimed limitation that a point pair actuating/positioning assigns a distance value to the pair in question. However, Echerer further discloses the claimed limitation that a point pair actuating/positioning assigns a distance value to the pair in question (e.g., column 13, lines 12-49, column 15, lines 9-11).

4. Claim 5:

The claim 5 encompasses the same scope of invention as that of claim 1 except additional claimed limitation that "multiple-point actuating/positioning for an open or closed point sequence assigns an area value quantity to a concave region delimited by the sequence in question". However, Fenster further discloses the claim limitation of multiple-point actuating/positioning for an open or closed point sequence assigns an area value quantity to a concave region delimited by the sequence in question (*This is because Fenster discloses in column 19 and 4 that the user can use the graphical input device 38 such as a single button mouse to measure distances and areas of the three-dimensional image within the most recently moved image plane and the user simply needs to use the graphical input device 38 to indicate the two end points over which the distance is to be measured if the user wishes to measure a distance and the user must identify at least three points if an area is to be measured and the placement of points on the image is done by moving a cursor and the display module 92 connects adjacent*

*points by straight line segments and computes both the overall line length and the area bounded by the lines joining the points using an appropriate scale*).

5. Claim 6:

The claim 6 encompasses the same scope of invention as that of claim 1 except additional claimed limitation that "a freehand-drawn actuating/positioning for an open or closed point sequence assigns an area value quantity to a concave region delimited by the sequence in question". However, Fenster further discloses the claim limitation of a freehand-drawn actuating/positioning for an open or closed point sequence assigns an area value quantity to a concave region delimited by the sequence in question (*This is because Fenster discloses in column 19 and 4 that the user can use the graphical input device 38 such as a single button mouse to measure distances and areas of the three-dimensional image within the most recently moved image plane and the user simply needs to use the graphical input device 38 to indicate the two end points over which the distance is to be measured if the user wishes to measure a distance and the user must identify at least three points if an area is to be measured and the placement of points on the image is done by moving a cursor and the display module 92 connects adjacent points by straight line segments and computes both the overall line length and the area bounded by the lines joining the points using an appropriate scale*).

6. Claim 7:

The claim 7 encompasses the same scope of invention as that of claim 1 except additional claimed limitation of "a multiple-point actuating/positioning for an open or closed point sequence assigns a poly-line measurement quantity to the sequence so drawn". However,

Fenster further discloses the claim limitation of a multiple-point actuating/positioning for an open or closed point sequence assigns a poly-line measurement quantity to the sequence so drawn (*This is because Fenster discloses in column 19 and 4 that the user can use the graphical input device 38 such as a single button mouse to measure distances and areas of the three-dimensional image within the most recently moved image plane and the user simply needs to use the graphical input device 38 to indicate the two end points over which the distance is to be measured if the user wishes to measure a distance and the user must identify at least three points if an area is to be measured and the placement of points on the image is done by moving a cursor and the display module 92 connects adjacent points by straight line segments and computes both the overall line length and the area bounded by the lines joining the points using an appropriate scale*).

7. Claim 8:

The claim 8 encompasses the same scope of invention as that of claim 1 except additional claimed limitation of "for an open or closed point sequence assigns a poly-line measurement quantity to the sequence so drawn". However, Fenster further discloses the claim limitation of a freehand-drawn actuating/positioning for an open or closed point sequence assigns a poly-line measurement quantity to the sequence so drawn (*This is because Fenster discloses in column 19 and 4 that the user can use the graphical input device 38 such as a single button mouse to measure distances and areas of the three-dimensional image within the most recently moved image plane and the user simply needs to use the graphical input device 38 to indicate the two end points over which the distance is to be measured if the user wishes to measure a distance*

*and the user must identify at least three points if an area is to be measured and the placement of points on the image is done by moving a cursor and the display module 92 connects adjacent points by straight line segments and computes both the overall line length and the area bounded by the lines joining the points using an appropriate scale*).

8. Claim 9:

The claim 9 encompasses the same scope of invention as that of Claim 2

except additional claimed limitation of assigning a pixel staticizing to an assigned geometrical entity. However, Echerer further discloses the claimed limitation of assigning a pixel staticizing to an assigned geometrical entity (column 9, lines 1-23, column 15, lines 9-11).

9. Claims 10-12:

The claim 10, 11, 12 encompasses the same scope of invention as that of claim 1, 2, 3 respectively except additional claimed limitation of "an apparatus". However, Echerer further discloses the claimed limitation of "an apparatus" (column 5, lines 12-37).

10. Claims 14-18:

The claim 14, 15, 16, 17, 18 encompasses the same scope of invention as that of claim 5, 6, 7, 8, 9 except additional claimed limitation of "an apparatus". However, Echerer further discloses the claimed limitation of "an apparatus" (column 5, lines 12-37).

Claim 19:

The claim 19 encompasses the same scope of invention as that of claim 1 except additional claimed limitation of a machine-readable computer program. However, Echerer further discloses the claimed limitation of "a machine-readable computer program (column 9, lines 30-36, figures 6-9).

Re Claims 26 and 32:

Echerer discloses enabling the generation of at least three different measurement graphics without requiring a user to define a type of graphic being generated through the automatic analysis file wherein the measurement graphics is automatically generated (See column 17-18). Echerer's generation of the at least three different measurement graphics is enabled without moving the cursor outside the medical image, i.e., through the automatic analysis file. Echerer thus discloses the at least three measurement graphics including a distance measurement between two points, an angle measurement between two lines and an area measurement formed by at least three points. Killmore discloses providing the angle of deviation between two selected vectors on the image in which the operator may select a first vector and move the cursor from the original vector to a second vector wherein the two vectors include the vectors formed by the three points.

Re Claims 27 and 33:

Echerer discloses enabling the generation of at least three different measurement graphics without requiring a user to define a type of graphic being generated through the automatic analysis file wherein the measurement graphics is automatically generated (See column 17-18).

Echerer's generation of the at least three different measurement graphics is enabled without placing the cursor on the menus, toolbars and control panels.

Fenster discloses in column 23, lines 25-40 and Fig. 27 using the graphical input device to measure distances and areas of the three-dimensional image within the most recently moved plane without the presence of menus, toolbars and control panels on said graphical interface. Fenster teaches that the user uses the graphical input device to indicate the two end points over which the distance is to be measured and the user must identify at least three points if an area is to be measured. Fenster also teaches generating the measurement graphics without moving the pointer outside the medical image.

Killmore discloses providing the angle of deviation between two selected vectors on the image in which the operator may select a first vector and move the cursor from the original vector to a second vector wherein the two vectors include the vectors formed by the three points.

Claim 28:

Although Echerer is silent to the claim limitation of determining which of the at least three measurement graphics is generated based on the number of points selected upon actuation of said at least one button of said mouse, Fenster and Killmore teach the claim limitation.

Fenster discloses in column 23, lines 25-40 and Fig. 27 using the graphical input device to measure distances and areas of the three-dimensional image within the most recently moved plane without the presence of menus, toolbars and control panels on said graphical interface. Fenster teaches that the user uses the graphical input device to indicate the two end points over which the distance is to be measured and the user must identify at least three points if an area is

to be measured. Fenster also teaches generating the measurement graphics without moving the pointer outside the medical image.

Killmore discloses providing the angle of deviation between two selected vectors on the image in which the operator may select a first vector and move the cursor from the original vector to a second vector wherein the two vectors include the vectors formed by the three points.

Claim 29:

Although Echerer is silent to the claim limitation of determining which of the at least three measurement graphics is generated based on the topology of points selected upon actuation of said at least one button of said mouse, Fenster and Killmore teach the claim limitation.

Fenster discloses in column 23, lines 25-40 and Fig. 27 using the graphical input device to measure distances and areas of the three-dimensional image within the most recently moved plane without the presence of menus, toolbars and control panels on said graphical interface. Fenster teaches that the user uses the graphical input device to indicate the two end points over which the distance is to be measured and the user must identify at least three points if an area is to be measured. Fenster also teaches generating the measurement graphics without moving the pointer outside the medical image.

Killmore discloses providing the angle of deviation between two selected vectors on the image in which the operator may select a first vector and move the cursor from the original vector to a second vector wherein the two vectors include the vectors formed by the three points.

Claim 30:

Although Echerer is silent to the claim limitation of determining which of the at least three measurement graphics is generated based on the number and topology of points selected

upon actuation of said at least one button of said mouse, Fenster and Killmore teach the claim limitation.

Fenster discloses in column 23, lines 25-40 and Fig. 27 using the graphical input device to measure distances and areas of the three-dimensional image within the most recently moved plane without the presence of menus, toolbars and control panels on said graphical interface. Fenster teaches that the user uses the graphical input device to indicate the two end points over which the distance is to be measured and the user must identify at least three points if an area is to be measured. Fenster also teaches generating the measurement graphics without moving the pointer outside the medical image.

Killmore discloses providing the angle of deviation between two selected vectors on the image in which the operator may select a first vector and move the cursor from the original vector to a second vector wherein the two vectors include the vectors formed by the three points.

11. Claims 25 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Echerer et al. U.S. Pat. No. 5,740,267 (hereinafter Echerer) in view of Fenster et al. U.S. Pat. No. 5,454,371 (hereinafter Fenster), Killcommons et al. U.S. Patent No. 6,424,996 (hereinafter Killcommons) and Buxton et al. U.S. Patent No. 5,798,752 (hereinafter Buxton).

Re Claims 25 and 31:

However, it is not clear that Echerer, Fenster and Killcommons expressly disclose the "triple-point actuating/positioning".

Buxton discloses the claim limitation of "triple-point actuation/positioning" (Buxton column 19, lines 55-67). Buxton discloses measuring the lengths, slopes and coordinates and slopes using the button tool and measuring the angle of the tripe points clicked wherein the angle is related to the middle point of the last three point clicked (See Buxton column 19, lines 55-67).

It would have been obvious to have incorporated Buxton's triple-point actuation/positioning into Echerer, Fenster and Killcommons's method because Echerer suggests the claim limitation by disclosing measuring the angle between two lines formed by four points wherein the four points are specified as in column 21 for measuring the angle. The example shows that the four points may be distinct from each other. However, one of the ordinary recognizes that the four points may include two identical points resulting in a three distinct points that is the same as what being claimed, i.e., the three point actuating/positioning by the user through an automatic analysis file specification of the three points for measuring an angle of the two rays formed by the three points or four points with two identical points. Therefore, Echerer suggests the claim limitation of "triple-point actuation/positioning".

Moreover, Echerer discloses enabling the generation of the measurement graphics without requiring a user to define a type of graphic being generated or without requiring a user specifying the type of graphic being generated using the menus through the automatic analysis file wherein the measurement graphics is automatically generated (See column 17-18).

Therefore, having the combined teaching of Echerer, Fenster, Killcommons and Buxton, one of the ordinary skill in the art would have been motivated to measure the angle associated with three points as clicked by the user using the mouse because this allows the use of a click-through button tool that measures geometric properties (Buxton column 19, lines 55-67).

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jin-Cheng Wang whose telephone number is (571) 272-7665. The examiner can normally be reached on 8:00 - 6:30 (Mon-Thu).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jcw

Kee M. Tung
Primary Examiner